

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claim 1 and ADD new claims 12-19 in accordance with the following:

1. (Currently Amended) A production cell, comprising:
a plurality of work performing elements for performing work; ~~and~~
an information processing device for commanding work tasks, connected to the
respective work performing elements by communications means, wherein:
said information processing device outputting a command consisting of a set of task units
assigned with an execution sequence, to each of the work performing elements; ~~and~~
the work performing elements each storing operating programs for respectively
executing one or more task units, and performing work by executing the operating programs in
the order of the execution sequence, on the basis of the set of task units with an assigned
execution sequence output by said information processing device; ~~and~~
the information processing device receiving notifications for executability from the work
performing elements, and sending an execution command to one of the work performing
elements having sent one of said received notifications for executability.
2. (Previously Presented) The production cell according to claim 1, wherein the
management of the task unit to be executed next is performed by the information processing
device, each time the work in one task unit is completed.
3. (Previously Presented) The production cell according to claim 1, wherein the
management of the task unit to be executed next is performed by communications between the
work performing elements, each time the work in one task unit is completed.
4. (Previously Presented) The production cell according to claim 1, comprising two
or more work performing elements capable of performing the work of the same task unit,
wherein the work performing element to carry out the work of said same task unit is determined
by said information processing device.

5. (Previously Presented) The production cell according to claim 1, comprising two or more work performing elements capable of performing the work of the same task unit, wherein the work performing element to carry out the work of said same task unit is determined by communications between the work performing elements, in accordance with a previously determined priority order.

6. (Previously Presented) A production cell comprising a plurality of work performing elements for performing work, and an information processing device for commanding work tasks, connected to the respective work performing elements by communications means, wherein said information processing device comprises:

means for storing task unit indicator information describing the execution sequence of task units required in order to accomplish the work in question, for each type of work command to be executed in said production cell;

means for receiving a work command and reading out the task unit indicator information corresponding to said received work command, from said storing means;

means for receiving notifications for executability from the respective work performing elements, and sending an execution command to one of the work performing elements having sent said received notifications for executability;

means for receiving task unit indicator information updated and sent back by a work performing element; and

means for sending said task unit indicator information read out from said storing means, and the updated task unit indicator information sent back from the work performing element, to each of the work performing elements;

and each of said work performing elements comprises:

task unit storing means for storing one or more task units;

means for receiving task unit indicator information from said information processing device and determining whether or not it is possible to execute the task unit that is to be executed next, on the basis of said task unit indicator information;

means for sending said notification for executability to said information processing device if said task unit is determined to be executable;

means for receiving an execution command from said information processing device and executing the instructed task unit; and

means for updating said task unit indicator information and sending same to said

information processing device, when execution of said task unit has been completed, such that it can be determined that said task unit has been completed on the basis of said received task unit indicator information.

7. (Previously Presented) A production cell comprising a plurality of work performing elements for performing work, and an information processing device for commanding work tasks, connected to the respective work performing elements by communications means,

wherein said information processing device comprises:

means for storing task unit indicator information describing the execution sequence of task units required in order to accomplish the work, for each type of work command to be executed in said production cell;

means for receiving a work command and reading out the task unit indicator information corresponding to said received work command, from said storing means;

means for successively outputting information relating to an execution unit to be executed, to each of the work performing elements, on the basis of the execution sequence in the task unit indicator information read out, directly after said task unit indicator information has been read out and each time an execution completion notification is received; and

means for receiving notifications for executability from the respective work performing elements, and sending an execution command to one of the work performing elements having sent said received notifications for executability;

and each of said work performing elements comprises:

task unit storing means for storing one or more task units;

means for receiving execution unit information from said information processing device and determining whether or not it is possible to execute the task unit of said execution unit information;

means for sending said notification for executability to said information processing device if said task unit is determined to be executable;

means for receiving an execution command from said information processing device and executing the instructed task unit; and

means for sending an execution completion notification to said information processing device when the execution of said task unit has been completed.

8. (Previously Presented) The production cell according to claim 6, wherein said means for determining whether a task unit is executable or not determines whether or not it is

possible to execute the task unit on the basis of the task units that can be executed by the work performing element, and management data storing whether or not the work in said task unit can be started.

9. (Previously Presented) The production cell according to claim 1, wherein a new work command can be received and work tasks corresponding to said new work command can be executed, while executing work tasks corresponding to another work command already received.

10. (Previously Presented) The production cell according to claim 1, wherein the types of said work commands are determined by the types of workpiece that are to be processed.

11. (Previously Presented) The production cell according to claim 7, wherein said means for determining whether a task unit is executable or not determines whether or not it is possible to execute the task unit on the basis of the task units that can be executed by the work performing element, and management data storing whether or not the work in said task unit can be started.

12. (NEW) A production system, comprising:
an information processing device outputting a work command as a set of task units; and
work performing elements in communication with the information processing device and receiving the work command from the information processing device, each of the work performing elements making a determination as to whether the work performing element can execute one of the task units and sending a notification for executability to the information processing device if the task unit is executable.

13. (NEW) The production system according to claim 12, wherein the work performing element notifying the information processing device that execution of one of the task units is possible sends a task efficiency value of the executable task unit.

14. (NEW) The production system according to claim 13, wherein upon receipt of the notifications for executability and the task efficiency values from the work performing elements, the information processing device selects one of the work performing elements having sent one

of the notifications for executability and sends an execution command to the selected work performing element to execute the task unit.

15. (NEW) A method of executing a sequence of task units, comprising:

outputting a work command as a set of task units from an information processing device to a plurality of work performing elements;

receiving, at the work performing elements, the work command from the information processing device; and

determining, at each of the work performing elements, whether the specific work performing element can execute at least one of the task units that is to be executed next.

16. (NEW) The method according to claim 15, further comprising:

notifying the information processing device that at least one of the task units can be executed if the work performing element determines that one of the task units can be executed.

17. (NEW) The method according to claim 16, further comprising:

selecting, at the information processing device, one of the work performing elements that notified the information processing device that execution of at least one specified task unit is possible; and

outputting an execution command to the selected work performing element to execute the specified task unit.

18. (NEW) The method of executing a sequence of task units according to claim 17, further comprising:

receiving, prior to the selection of one of the work performing elements, a task efficiency value for the specified task unit from each of the work performing elements capable of executing the specified task unit; and

selecting, based on the task efficiency value, one of the work performing elements to execute the specified task unit.

19. (NEW) The method of executing a sequence of task units according to claim 17, further comprising:

receiving, after execution of a specified task unit, notification that the specified task unit is executed; and

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outputting a successive execution command to a selected work performing element to execute the next task unit in a task unit execution sequence.